TOPEX/POSEI DON Altimeter Calibration: Recent Results

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A principal goal of the TOPEX/POSEIDON verification effort is the calibration of any bias or drift in the radar altimeter systems. To this end, NASA has instrumented an oil platform (Harvest) 20 km from Point Conception, California, for the purpose of collecting in-situ Immurements of sea level and ancillary information along the TOPEX/POSEIDON ground track. The satellite passes directly over the platform every 10 days on its repeating orbit, making possible an estimate of the bias in the altimeter range. In this presentation, we discuss results from the first 30 overflights of the Harvest platform, nearly a ful 1 year of data. Represented in this ensemble of data arc 22 overflights by the American dual-frequency altimeter (Al T) and 7 overflights by the French solid-state altimeter (SSAl T). Current results suggest that the Al T is measuring short- by 15 to 20 cm- whilc the SSA1 ,'1' is relatively unbiased. Data from the CNES primary calibration site on Lampedusa island in the Mediterrancan arc also considered. The primary 1 ampedusa campaign ended in December, 1992, after 9 overflights (3 Al T and 6 SSAl T). Results from this campaign arc consistent with those from Harvest. A current est i mate of the relative bias (Al ."1' vs SSAl T) from the global evaluation of altimeter crossovers is 20 cm, further corroborating the results from the on-site calibrations at Harvest and Lampedusa.